

Early Warning Scores & ALERT™

Valerie Clarke
Deteriorating Patient
Conference
4th November 2010

Background

- Increased complexity of medical & surgical interventions
- Ageing inpatient population
- Reduction in the number of hospital beds

- RESULTS in an increase of the acuity of hospital inpatients

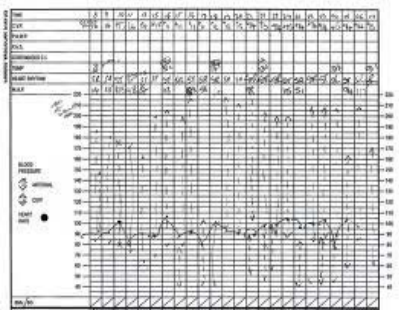
- Many deaths in hospital are predictable & preventable
- Critical illness is often preceded by physiological deterioration
- *Kause J, Smith G, Prytherch D et al. (2004)*
- *Hillman K M et al. (2001)*

The National Confidential Enquiry into Patient Outcome and Death (2005)

- Reported that 21% of admissions to Intensive Care Unit (ICU) were thought to be avoidable
- Furthermore, communication failures between teams contributed to delays in referrals and in delivering appropriate essential care, which contributed to increased morbidity and mortality.

Suboptimal Care

- Increasing body of evidence to show that patients becoming, or who have become acutely unwell on general wards may have received suboptimal care .
- *McQuillan et al. (1998)*



Vital Observations

- Many staff completing routine observations on general wards often fail to understand the significance of the abnormal findings.
- Rapid Response System
 - Track & Trigger
 - Early Warning Scores

Early Warning Scores

- An Early Warning Scoring System can improve identification of patients who are at risk in a non-ICU setting.
- Simple scoring system suitable for bedside application
- The Early Warning Scoring System consists of simple, practical methods of using routine physiological measurements to identify patients at risk.

Early Warning Scores

- Parameters are allocated a score from 0-3 according to the degree of deviation from predetermined normal range
- Scores are summed to give total EWS
- Score used to trigger further assessment and intervention

OBSERVATION CHART

Page Number:

Name: Hoop Number:

Occ:

Month:

NURSE IN CHARGE OF PATIENT TO COMPLETE FREQUENCY INSTRUCTIONS AT LEAST DAILY IN GRID

DATE	Frequency	Sign	Date Time	Temp °C	Temp °C
				40°	40°
				39°	39°
				38°	38°
				37°	37°
				36°	36°
				35°	35°
				210	210
				200	200
				190	190
				180	180
				170	170
				160	160
				150	150
				140	140
				130	130
				120	120
				110	110
				100	100
				90	90
				80	80
				70	70
				60	60
				50	50
				40	40
				30	30
				200	200
				190	190
				180	180
				170	170
				160	160
				150	150
				140	140
				130	130
				120	120
				110	110
				100	100
				90	90
				80	80
				70	70
				60	60
				50	50
				40	40
				30	30
				200	200
				190	190
				180	180
				170	170
				160	160
				150	150
				140	140
				130	130
				120	120
				110	110
				100	100
				90	90
				80	80
				70	70
				60	60
				50	50
				40	40
				30	30
				200	200
				190	190
				180	180
				170	170
				160	160
				150	150
				140	140
				130	130
				120	120
				110	110
				100	100
				90	90
				80	80
				70	70
				60	60
				50	50
				40	40
				30	30
				200	200
				190	190
				180	180
				170	170
				160	160
				150	150
				140	140
				130	130
				120	120
				110	110
				100	100
				90	90
				80	80
				70	70
				60	60
				50	50
				40	40
				30	30
				200	200
				190	190
				180	180
				170	170
				160	160
				150	150
				140	140
				130	130
				120	120
				110	110
				100	100
				90	90
				80	80
				70	70
				60	60
				50	50
				40	40
				30	30
				200	200
				190	190
				180	180
				170	170
				160	160
				150	150
				140	140
				130	130
				120	120
				110	110
				100	100
				90	90
				80	80
				70	70
				60	60
				50	50
				40	40
				30	30
				200	200
				190	190
				180	180
				170	170
				160	160
				150	150
				140	140
				130	130
				120	120
				110	110
				100	100
				90	90
				80	80
				70	70
				60	60
				50	50
				40	40
				30	30
				200	200
				190	190
				180	180
				170	170
				160	160
				150	150
				140	140
				130	130
				120	120
				110	110
				100	100
				90	90
				80	80
				70	70
				60	60
				50	50
				40	40
				30	30
				200	200
				190	190
				180	180
				170	170
				160	160
				150	150
				140	140
				130	130
				120	120
				110	110
				100	100
				90	90
				80	80
				70	70
				60	60
				50	50
				40	40
				30	30
				200	200
				190	190
				180	180
				170	170
				160	160
				150	150
				140	140
				130	130
				120	120
				110	110
				100	100
				90	90
				80	80
				70	70
				60	60
				50	50
				40	40
				30	30
				200	200
				190	190
				180	180
				170	170
				160	160
				150	150
				140	140
				130	130
				120	120
				110	110
				100	100
				90	90
				80	80
				70	70
				60	60
				50	50
				40	40
				30	30
				200	200
				190	190
				180	180
				170	170
				160	160
				150	150
				140	140
				130	130
				120	120
				110	110
				100	100
				90	90
				80	80
				70	70
				60	60
				50	50
				40	40
				30	30
				200	200
				190	190
				180	180
				170	170
				160	160
				150	150
				140	140
				130	130
				120	120
				110	110
				100	100
				90	90
				80	80
				70	70
				60	60
				50	50
				40	40
				30	30
				200	200
				190	190
				180	180
				170	170
				160	160
				150	150
				140	140
				130	130
				120	120
				110	110
				100	100
				90	90
				80	80
				70	70
				60	60
				50	50
				40	40
				30	30
				200	200
				190	190
				180	180
				170	170
				160	160
				150	150
				140	140
				130	130
				120	120
				110	110
				100	100
				90	90
				80	80
				70	70
				60	60
				50	50
				40	40
				30	30
				200	200
				190	190
				180	180
				170	170
				160	160
				150	150
				140	140
				130	130
				120	120
				110	110
				100	100
				90	90
				80	80
				70	70
				60	60
				50	50
				40	40
				30	30
				200	200
				190	190
				180	180
				170	170
				160	160
				150	150
				140	140
				130	130
				120	120
				110	110
				100	100
				90	90
				80	80
				70	70
				60	60
				50	50
				40	40

Modified Early Warning System Observation Score (MEWS) Parameters

Score	3	2	1	0	1	2	3
Pulse	< 40	41-50	51-55	56-100	101-110	111-139	>140
Systolic BP	< 80	81-90	91-100	101-180	181-199	>200	
Resp rate	< 8			9-20	21-25	26-29	>30
O2 sats	< 85%	85-89%	90-94%	>95%			
Temperature		<35.0	35.1-36	36.1-37.5	37.6-38.5	>38.5	
CNS Level AVPU or GCS	Unresponsive	Respond to Pain	Respond to Voice	Alert	New agitation/ confusion		
GCS				15	14	9-13	≤8
Urine Output	< 10 mls/hr	<30mls/hr	<50mls/hr				

Action Plan

MEWS Score	Action
1	Inform registered nurse for patient review.
2	Inform registered nurse for patient review. Increase frequency of observations to at least 4 hourly.
3 In any single parameter	Contact appropriate doctor for immediate review. Increase frequency of observations to hourly.
3 or more	Contact appropriate doctor for immediate review. Increase frequency of observations to hourly.
If CNS score increases by 2 or more regardless of the other observations	Contact appropriate doctor for immediate review. Commence neurological observations.



ALERT™

Acute **L**ife –threatening **E**vents-
Recognition & **T**reatment



ALERT

- Designed to help junior doctors and ward nurses assess & manage the critically ill patient safely and successfully
- Embraces clinical governance and multiprofessional education
- Now mandatory for Junior doctors in many U.K hospitals



ALERT Course Aims

To improve

- Communication between multidisciplinary teams & ward based nurses & junior doctors
- Recognition of 'at risk' patients & to respond appropriately
- Identification of impending emergencies
- Initiation of simple treatments required to prevent the spiralling cascade of multi-organ failure

Assessing the Critically ill patient

- **A** for **A**irway
- **B** for **B**reathing
- **C** for **C**irculation
- **D** for **D**isability (e.g. CNS function)
- **E** for **E**xposure (permit full patient examination)

A -Airway

- Chin lift, head tilt
- Protect c-spine
- Suction
- Airway adjuncts

Do you need help now?

B -Breathing

- Rate
- Rhythm
- Depth
- Symmetry
- Colour
- O2 Saturations

Do you need help now?

C -Circulation

- Capillary refill
- Limb temperature
- Peripheral pulses
- Central pulses
- Heart rate and rhythm
- BP
- O2 sats
- Urine Output

Do you need help now?

D -Disability

- Drugs
- AVPU
- Pupils
- Blood glucose
- ? Recovery position

Do you need help now?

E -Exposure

- Examination
- Environment
- Consider hypothermia
- Dignity

Do you need help now?

Immediate Assessment Monitoring and Treatment

Remember:

Airway adjuncts, oxygen, bag-valve mask, ventilation, fluids, recovery position
Blood glucose, monitoring.

CALL FOR HELP?

Full Patient Assessment

Review patient notes and charts
Obtain patient history
Perform a systematic examination
Review results of routine investigations

CALL FOR HELP?

Decisions and Planning

Is the patient improving?

YES

NO/UNSURE

Do you have a diagnosis?

NO

YES

MANAGEMENT PLAN

Special Investigations?

CALL FOR HELP?

DEFINITIVE CARE

Re-assess ABC's

CALL FOR HELP?

Training Sites

- St. James's Hospital, Dublin
- St. Luke's, Kilkenny
- Mid West - University Limerick
- North East – OLLHD, CGH
- Beacon Hospital

To Date



- Staff Trained by these centres greater than 2050
- Train the Trainers courses ran 10.
- Over 130 facilitators are qualified to provide the course nationally.

National Alert Steering Committee

June 2008

- **Members:**

- St James's
- Kilkenny
- Nenagh
- Beacon
- Clinical Indemnity



- **Aims:**

- Disseminate the ALERT course nationally
- Develop an audit process

Progress

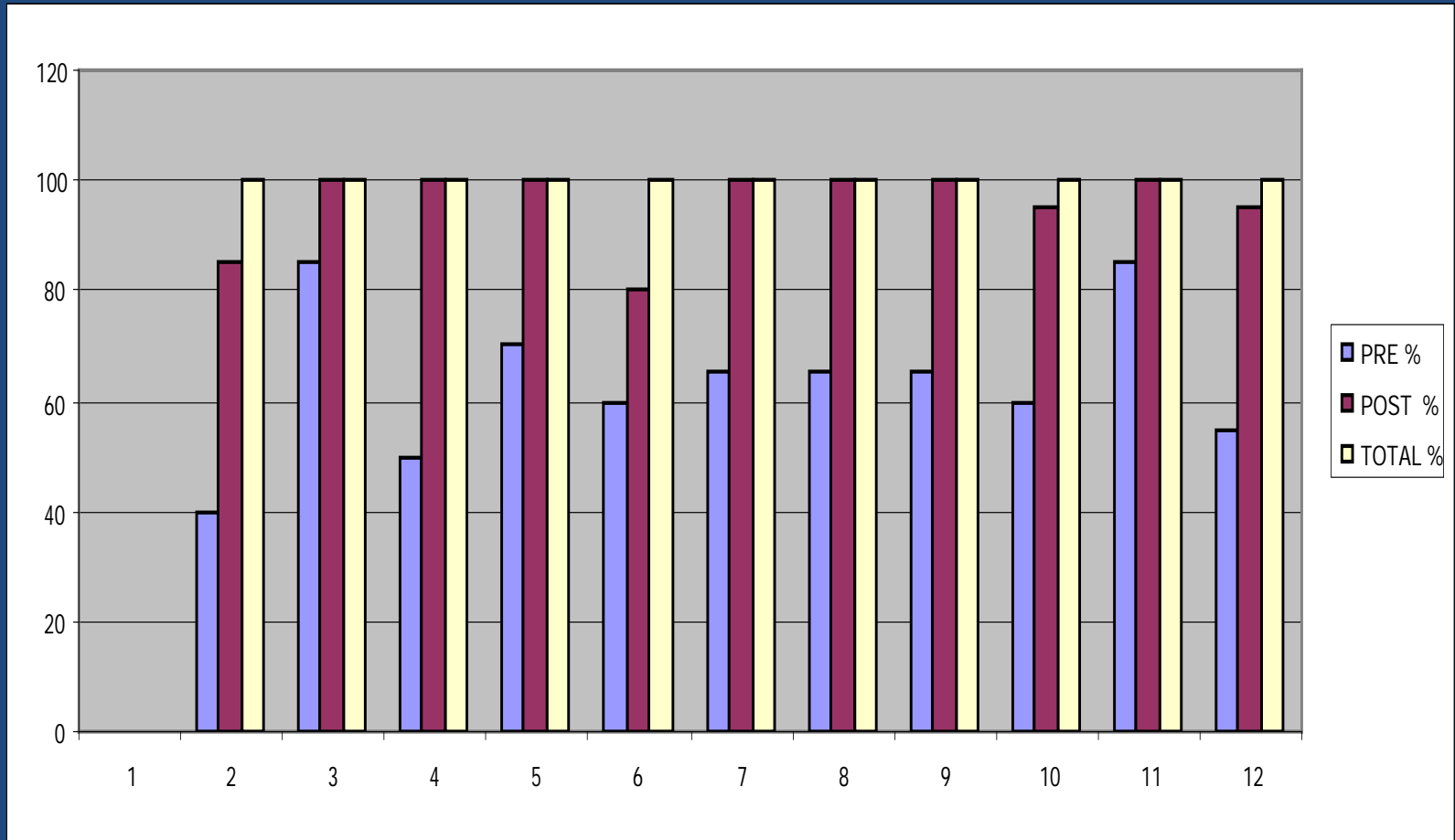
- Satellite sites: St James's , St Luke's and Nenagh General
- Irish Nursing Board approval- category 1
- St James's Hospital- working with Trinity College Dublin to train all final year medical and nursing students
- Nenagh General- affiliated with the University of Limerick
 - Start up (seed) funding secured from CIS
- Master Class- key stakeholders
- Conferences- Rensus, nursing, CIS
- All sites nationally standardised
 - Questionnaire
 - Evaluation form

Feedback

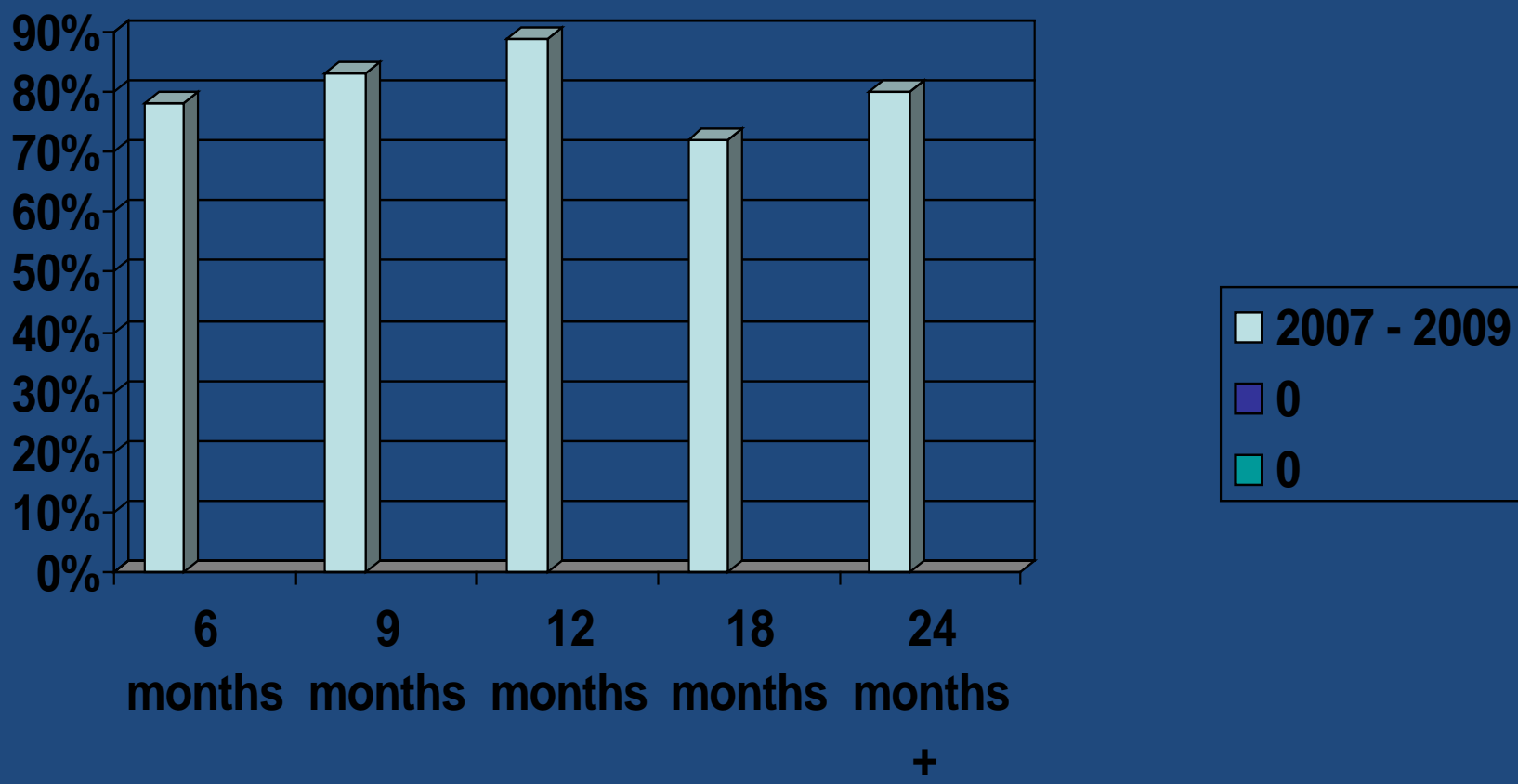


- We know that the candidates are benefiting from the course due to the feedback we receive through evaluation forms.
- We can also see an improvement in their knowledge, as they must complete a questionnaire at the start of the Course and at the end of the Day.

Correct answers shown as %.
Blue= pre and Red= post
course.



ALERT Evaluation Over 24 Month Period Post Attending ALERT Training (Knowledge retained)





Free form evaluation from Students

- 'excellent course, great teaching learned a lot' (medical student)
- 'This course is very appropriate & educational for all nursing & medical staff'
- 'Might be more appropriate nearer to starting internship, but well taught & enjoyable' (medical student)
- 'Very good scenarios, Thank you'

Next Stage



- Continue to disseminate nationally to include PCCC
- E-learning
- Target all medical /nursing schools
- Involve Northern Ireland
- Target all areas under reconfiguration

In Summary

- With the use of EWS and the ALERT we can continue to predict, prevent & treat the deteriorating patient nationally

